

CLAIMS

WHAT IS CLAIMED IS:

1. A method for the production of a one piece piston for a combustion engine, wherein the method comprises the following steps:

forging a piston head from a piston blank wherein said piston head extends along a longitudinal axis and is formed in a substantially cylindrical manner having a radial outer edge;

cutting said piston head to form a recess on a side of said piston head forming a ring wall and a protrusion which results in a ring shaped gap between said protrusion and said ring wall, wherein said protrusion has an outer radial edge that is radially inside of a radial inside edge of said ring wall by a distance (y);

machining a cooling channel using a machine tool having a width that is smaller than said distance (y) wherein said cooling channel is disposed in an outer region of said piston head with a radially outer delimitation formed by said radial inside edge of said ring wall molded into said piston head, and a radially inner delimitation which is formed by a ring wall molded onto said piston head;

machining said projection by forming a groove shaped undercut, which faces towards said piston head, structured as an oil groove, which is integral with and extends on to said at least one pin boss support and partly onto said at least one skirt connection wherein said cooling channel is partly closed off towards a side of said pin bosses wherein said radially inner delimitation of said cooling channel is formed partly by said at least one pin boss support and partly by said at least one skirt connection;

machining at least one pin bore in said piston head wherein said at least one pin bore forms at least one pin boss having at least two pin boss supports and at least one face formed integral with said piston head, wherein said at least two pin boss supports and said at least one face are arranged set back relative to said radial outer edge of said piston head; and

machining an outside contour of said piston wherein this step includes forming at least two skirt elements coupled to said at least one pin boss in said piston head, via a skirt connection having at least one recess between said skirt elements and said piston head.

2. The method as in claim 1, wherein said step of forging said piston head comprises forging a blank made from forgeable, heat resistant steel.

3. The method as in claim 1, wherein said step of forging said piston head comprises forging a blank made from forgeable aluminum alloy.

4. The method as in claim 1, wherein said step of forging a blank to produce said piston head comprises using a lathe to produce said piston head.

5. The method as in claim 1, further comprising the step of affixing a ring element on an inside face of said ring wall in a pin-boss-side region, wherein said ring element has a pin boss side edge which extends into said cooling channel.

6. The method as in claim 5, wherein said ring element has a cross-section that is shaped as a nose directed radially inward.

7. The method as in claim 5, wherein said ring element is formed from an elastically resilient material.

8. The method as in claim 5, further comprising the step of forming said ring element from plastic, and wherein said step of affixing said ring element comprises gluing said ring element on said radially inside face of said ring wall.

9. The method as in claim 5, wherein said step of forming said ring element includes forming a ring element having a circumferential molded on part; and said step of affixing said ring element includes affixing said molded on part into a circumferential groove formed in a radially inside face of said ring wall.

10. A method for the production of a one piece piston for a combustion engine wherein the method comprises the following steps:

forging a piston head from a piston blank;

cutting said piston head to form a recess on a side of said piston head forming a ring wall and a projection which results in a ring shaped gap between said protrusion and said ring wall, wherein said protrusion has an outer radial edge that is radially inside of a radial inside edge of ring wall by a distance (y);

machining a cooling channel using a machine tool having a width that is smaller than said distance (y);

machining said projection by forming a groove shaped undercut, which faces towards said piston head, structured as an oil groove, which is molded partly on to said at least one pin boss support and partly onto said at least one skirt connection;

machining at least one pin bore in said piston head; and

machining an outside contour of said piston.